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Platelet transfusion in dengue fever: a randomized controlled trial

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Background: Immune mediated destruction of platelets can possibly lead to poor response to platelet transfusion in dengue fever. We conducted this trial to study effects of platelet transfusion in dengue-related thrombocytopenia.

Methods: A single center, randomized, non blind trial was conducted at Jinnah Hospital Lahore between August and October 2011. Adults of the age ≥14 years with dengue fever or dengue hemorrhagic fever and platelet counts <30,000/mm3 were eligible.Patients were randomized to treatment and control group. Treatment group received single donor platelets. Responsiveness to platelet transfusion was assessed by 1 hr post-transfusion platelet increments (PPI) and corrected count increments (CCI). Patients with PPI ≥10,000/mm3 and/or CCI≥5,000/mm3 1 hr post-transfusion were considered responders. Primary outcome measure was platelet count increments at 24 and 72 hrs. Secondary outcome measure was duration of bleeding.

Results: Eighty seven (87) patients were enrolled and 43 (48.2%) received platelet transfusion. Mean PPI and CCI at 1 hr post-transfusion in treatment group were 18,800/mm3 (range -7,000 to 77,000) and 7,000/mm3 (range -1,050 to 27,260) respectively. 22 (53.6%) patients in treatment group were non-responders. Mean platelet increments were higher in treatment group as compared to control group at 24 hrs (34,780/mm3 vs 4,280/mm3, $p < 0.001$) and 72 hrs (75,430/mm3 vs 32,840/mm3, $p = 0.001$). At 24 hrs, responders showed significantly higher increments (mean 53,310/mm3) than non-responders (mean 18,770/mm3) and controls (mean 4,280/mm3) ($p = 0.004$, $p < 0.001$ respectively). Significant difference was also found between non-responders and controls ($p < 0.001$). Similarly, 72 hrs post-transfusion platelet increments were significantly higher in responders (mean 103,440/mm3) as compared to non-responders (mean 51,430/mm3) and control group (mean 32,840/mm3) ($p = 0.001$, $p < 0.001$ respectively). However, no significant differences were found between non-responders and control group ($p = 0.104$). Three severe anaphylactic reactions including two deaths occurred in treatment group. Both deaths were in non-responders. No significant difference was found in duration of bleeding between treatment and control group.

Conclusion: Although half of the patients show significant improvement in platelet count following platelet transfusion, no beneficial effect occurs on duration of bleeding. Platelet transfusion in dengue fever is associated with high incidence of severe complications including death and should not be routinely done. The risk of complications is higher in non-responders.

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Helicobacteriosis: An emerging disease for domestic animals and humans in Venezuela

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Background: Helicobacteriosis a recognized disease worldwide. In Venezuela, *Helicobacter pyloris* formally identified for several years diagnosed by serology, saliva urease test, PCR and cultures. Its role in gastritis and cancer promotion has been ascertained. It have been studied in many animal models. New *Helicobacter spp.* have been identified with close DNA homogeneity to *H. pyloris.* In our country, we have studied the role of the bacterium in Gastritis in dogs, horses and swine by using PCR, urease test and ELISA. *Helicobacter spp* has been identified in above models related to gastro-duodenal ulcer syndrome (GDUS) and MALT associated gastritis.

Methods: Prevalence of *Helicobacter spp* studied by videoendoscopy, biopsies and stomach lavages in dogs (N= 30), horses (N= 20) and swine (N= 100), as necropsies in euthanized horses (N= 30) and swine at slaughterhouse (N= 400). *Helicobacter* DNA extraction-was done amplifying specific primers of fragment of 399 bp from RNAr gen 16S, *H. pyloris* glimM gen of 294 pb and 128 pb of *cagA* gen. Biopsies and gastroduodenal tissue were stainned to identified spiral bacteria free, attached or intracytoplasmatically in epithelial cells, urease test and Elisa. Interaction of Porcine Circovirus with presence of *Helycobacter-Like* bacteria was studied by qPCR and cElisa in GDUS.

Results: Overall prevalence of *Helicobacter* was 20% in dogs, 27% in horses and 67% in swine. Urease test was highly (+) 85% in dogs, horses 35% and swine 85%. Stomach content in horses pH 8 o greater, as in swine with GDUS, compared to normal stomachs pH 3 - 5. Prevalence of *Helicobacter-like* spiral bacteria were seen in normal stomachs (30%) and stomachs with GDUS (80%). *Helicobacter sp.* extracted DNA identified in all models studied. Homogeneity to *H. pyloris* 95% in dogs and horses.High seroconversion to PCV2 (75%, p GDUS up to 10° Log of PCV2 DNA, compared to normal swine. Acknowledge funding to CDCH-UCV *# PG 11.00.6631.2007.*

Conclusion: *Helicobacter spp.* presence in tissue correlated (pGDUS. Clinical evaluation of patients, videoendoscopy versus histopathology are key steps to diagnose Helicobacteriosis disease. *H. equorum and H. suis* develop lesions similar to humans. The zoonosis of animal *Helicobacters and H. pyloris* have its potential habits - environmental dependant.

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